

Relationships

- The **intercostal nerves, arteries and veins** are positioned deep to the internal intercostal muscles.
- The **internal thoracic artery** is positioned posterior (deep) to the first six costal cartilages.
- The **left phrenic nerve** passes anterior to the root of the left lung.
- The **left phrenic nerve** is positioned lateral to the pericardial sac.
- The **left phrenic nerve** passes lateral to the ascending aorta.
- The **right phrenic nerve** is positioned lateral to the superior vena cava.
- The **right phrenic nerve** is positioned lateral to the pericardial sac.
- The **right phrenic nerve** passes anterior to the root of the right lung.
- The **arch of the aorta** passes superior to the pulmonary trunk.
- The **left vagus nerve** passes directly lateral to the arch of the aorta.
- The **left recurrent laryngeal nerve** passes posterior to the ligamentum arteriosum.
- The **left recurrent laryngeal nerve** passes directly inferior to the arch of the aorta.
- The **left vagus nerve** passes posterior to the left main bronchus.
- The **right vagus nerve** is positioned lateral to the trachea.
- The **right vagus nerve** passes medial to the arch of the azygos vein and posterior to the right main bronchus.
- The **superior vena cava** is positioned lateral (right) to the ascending aorta.
- The **azygos vein (arch)** passes superior to the right main bronchus.
- The **transverse pericardial sinus** is positioned posterior to the ascending aorta and the pulmonary trunk.
- The **esophagus** is positioned posterior to the trachea.
- The **esophagus** passes posterior to the left main bronchus.
- The **descending (thoracic) aorta** passes posterior to the left main bronchus.
- At the hilum of the left lung, the **pulmonary artery** is positioned superior to the main bronchus.
- At the hilum of the left lung, the **pulmonary veins** are positioned anterior and inferior to the main bronchus.
- At the hilum of the right lung, the **pulmonary artery** is positioned anterior to the main bronchus.
- At the hilum of the right lung, the **pulmonary veins** are positioned anterior to the main bronchus.
- At the hilum of the right lung, the **pulmonary veins** are positioned anterior and inferior to the pulmonary arteries.
- The **right posterior intercostal arteries** pass anterior to the vertebral bodies.
- The **intercostal veins, arteries, and nerves** are all positioned directly inferior to the ribs.
- The **sympathetic chain** is positioned lateral to the thoracic vertebral bodies.
- The **descending (thoracic) aorta** is positioned posterior to the pericardial sac.
- The **descending (thoracic) aorta** is positioned to the left (lateral) of the vertebral bodies.
- The **inferior vena cava** is positioned to the right of the descending aorta.
- The **greater splanchnic nerve** is positioned anterior – medial to the sympathetic chain.
- The **esophagus** is positioned posterior to the pericardial sac.
- Near the diaphragm, the **esophagus** is positioned anterior to the thoracic aorta.
- The **thoracic duct** is positioned directly anterior to the thoracic vertebral bodies.
- The **common bile duct** passes posterior to the duodenum (first segment) and anterior to the epiploic foramen.
- The **hepatic portal vein** passes anterior to the epiploic foramen, and in the lesser omentum (hepatoduodenal ligament), it is typically positioned posterior to the bile duct and the hepatic artery proper.
- The **hepatic artery proper** passes anterior to the epiploic foramen.
- The **gastroduodenal artery** passes posterior to the duodenum (first segment) and anterior to the pancreas.
- The **duodenum (second segment)** is positioned directly lateral (to the right) of the pancreas (head).
- The **duodenum (3rd segment)** is positioned directly inferior to the pancreas (head) and passes anterior to both the inferior vena cava and the abdominal aorta.
- The **splenic artery and vein** pass posterior to the stomach (fundus) and are typically positioned posterior – superior to the pancreas (body and tail).
- The **superior mesenteric artery** is positioned lateral (to the left) to the **superior mesenteric vein** and passes anterior to the **duodenum (4th segment)**, directly anterior to the **left renal vein**, and posterior to the **pancreas (body)**.
- The **superior mesenteric vein** passes anterior to the duodenum (4th segment) and posterior to both the stomach (pylorus) and the pancreas (body).
- The **inferior vena cava** passes posterior to the liver and is positioned lateral to the caudate lobe.
- The **gall bladder** is positioned lateral to the quadrate lobe of the liver.
- The **kidney** is positioned anterior – lateral to the psoas muscle and anterior to both the quadratus lumborum and transversus abdominis muscles.
- The **right suprarenal gland** is positioned superior to the right kidney.

- The **left suprarenal gland** is positioned medial to the left kidney.
- The **right renal artery** passes directly posterior to the inferior vena cava.
- The **left renal vein** passes anterior to the abdominal aorta and posterior to the superior mesenteric artery.
- The **right ureter** passes anterior to the psoas muscle.
- The **right testicular artery** passes directly anterior to the inferior vena cava, the right ureter, and the psoas muscle.
- The **right common iliac artery** passes directly anterior to the left common iliac vein.
- The **internal pudendal artery and vein, and the pudendal nerve** pass posterior-lateral (superficial) to the sacrospinous ligament.
- The **bulbospongiosus muscle** is positioned directly superficial (lateral) to the bulb of the vestibule.
- The **ischiocavernosus muscle** is positioned directly superficial to the crus of the clitoris.
- The **rectum** is positioned posterior to the vagina and cervix and directly posterior to the rectouterine pouch.
- The **uterus (body and fundus)** is positioned posterior-superior to the bladder.
- The **uterus** is positioned directly anterior to the rectouterine pouch.
- The **ovary** is typically positioned posterior to the broad ligament of the uterus and posterior-inferior to the uterine tube.
- The **urethra** is positioned anterior to the vagina.
- The **left common iliac vein** is positioned posterior-medial to the common iliac artery.
- The **external iliac vein** is positioned posterior-medial to the external iliac artery.
- The **obturator artery, vein and nerve** pass inferior to the superior pubic ramus.
- The **ureter** passes posterior and inferior to the uterine artery.
- The **ureter** passes superior and anterior to the vaginal artery.
- The **lumbosacral trunk** passes anterior to the sacrum (ala).
- The **pelvic diaphragm (levator ani muscle)** is positioned medial to the obturator internus muscle.
- The **internal pudendal artery and vein, and the pudendal nerve** pass posterior-lateral (superficial) to the sacrospinous ligament.
- The **bulbospongiosus muscle** is positioned directly superficial to the bulb of the penis.
- The **ischiocavernosus muscle** is positioned directly superficial to the crus of the penis.
- The **deep dorsal vein of the penis** passes inferior to the pubic symphysis.
- The **bulb of the penis** is positioned directly inferior (superficial) to the urogenital diaphragm (deep transverse perineal muscle).
- The **prostate** is positioned superior to the urogenital diaphragm (deep transverse perineal muscle).
- The **rectum** is positioned posterior to the prostate and anterior to the sacrum and coccyx.
- The **bladder** is positioned superior to the prostate.
- The **ductus deferens (ampulla)** is positioned posterior to the bladder.
- The **ductus deferens (ampulla)** is positioned superior to the prostate.
- The **seminal vesicle** is positioned lateral to the ampulla of the ductus deferens.
- The **seminal vesicle** is positioned posterior to the bladder.
- The **ureter** passes directly posterior and inferior to the ductus deferens.
- The **left common iliac vein** is positioned posterior-medial to the common iliac artery.
- The **external iliac vein** is positioned posterior-medial to the external iliac artery.
- The **right ureter** passes directly anterior to the right external iliac artery.
- The **ductus deferens** passes directly posterior – superior (deep) to the obliterated umbilical artery.
- The **obturator artery, vein and nerve** pass inferior to the superior pubic ramus.
- The **lumbosacral trunk** passes anterior to the sacrum (ala).
- The **pelvic diaphragm (levator ani muscle)** is positioned medial to the obturator internus muscle.